

Notice of Allowability

Application No.

10/694,299

Examiner

Vikkram Bali

Applicant(s)

GALLATIN ET AL.

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6/11/2007.
2. ☒ The allowed claim(s) is/are 1-30.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Kelly M. Nowak, Reg. # 47,898 on 7/31/2007.

The application has been amended as follows:

In claims:

Amend the following claims:

29. A computer readable medium embedded with a computer program of instructions executable by the computer to perform method steps for performing model-based optical proximity correction to correct for distortions on a photomask, said method steps comprising:

- providing a region of interest (ROI) having an interaction distance;
- locating at least one finite geometrical shape within said ROI;
- generating at least one cut line across at least one lateral edge of said at least one finite geometrical shape;

extending said ROI beyond its interaction distance based on a location of said at least one cut line across said at least one lateral edge of said at least one finite geometrical shape to correct for optical proximity; and
correcting for any distortion on a photomask using corrected optical proximity.

30. A computer readable medium embedded with a computer program of instructions executable by the computer to perform method steps for performing model-based optical proximity correction to correct for distortions on a photomask, said method steps comprising:

providing a first region of interest (ROI) having an interaction distance; locating at least one polygon within said first ROI;

locating at least one cut line across at least one lateral edge of said at least one polygon, said at least one cut line comprising a plurality of sample points representative of a set of vertices within said first ROI;

determining an angular position of said at least one cut line across said at least one lateral edge of said at least one polygon;

determining a first portion and a second portion of said at least one cut line residing on opposing sides of an intersection between said at least one cut line and said at least one lateral edge;

providing a second ROI by extending said first ROI beyond its interaction distance based on said angular position of said at least one cut line and said first and second portions of said at least one cut line residing on said opposing sides of said intersection;

correcting for optical proximity using said second ROI; and correcting for any distortions on a photomask using said corrected optical proximity.

Allowable Subject Matter

2. Claims 1-30 are allowed.

3. The following is an examiner's statement of reasons for allowance:

Claims 1-30 are allowed because the prior art alone or in combination with fails to disclose, teach or suggest a method for model based optical proximity correction for correcting the distortion on a photomask that includes locating a ROI generating one cut line across at least one lateral edge of the finite geometrical shape extending ROI beyond its interaction distance based on a location of at least one cut line across at least one lateral edge of at least one finite geometrical shape to correct for optical proximity, in combination with other limitations as claimed.

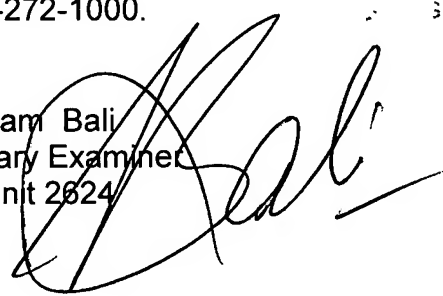
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vikram Bali whose telephone number is 571.272.7415. The examiner can normally be reached on 7:00 AM - 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis can be reached on 571.272.6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Vikkram Bali
Primary Examiner
Art Unit 2624



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August 1, 2007